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Economic Contribution of Alomere Health

A REPORT OF THE ECONOMIC IMPACT ANALYSIS PROGRAM

Authored by Brigid Tuck and Situ Chitrakar



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January 2019

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EXECUTIVE SUMMARY: ECONOMIC CONTRIBUTION OF ALOMERE HEALTH

“Our passion and purpose is to strengthen and nurture the health and well-being of our family, friends, neighbors, and communities, through every season of life.” ~ Alomere Health Mission

Alomere Health is a general medical and surgical hospital in Alexandria, Minnesota with two clinics. The hospital, which has 127 beds, provides full medical services. It employs more than 700 full-time equivalent staff, including physicians, advanced practice professionals, and skilled nurses.

Since 2012, Alomere Health has experienced increased demand for its surgery services, with the number of patients increasing by 38 percent. This increased patient demand has spurred expansion at the hospital, which includes the addition of four new operating rooms and eight pre- and post-op rooms. Along with these surgical additions, the hospital also renovated space to add 22 new exam rooms in the specialty clinic. Alomere Health spent \$13.7 million on the expansion, which began in fall of 2017 and ended during the first quarter of 2018. The hospital has begun offering services in the new space, and activity is expected to increase as its use continues to expand.

Alomere Health funded the expansion project through a variety of sources, including a federal New Markets Tax Credit. As part of the New Markets Tax Credit, Equity Plus, LLC hired University of Minnesota to conduct a study measuring the economic contribution of the hospital. Included in the economic contribution study is a comprehensive analysis of the demographics and economics of Douglas County, Minnesota.

Economic Contribution

The expansion of Alomere Health contributed to the economy in two ways. First, the hospital expanded its operations. On an annual basis, it employs more workers and purchases more local supplies. Second, the hospital invested in equipment and facility space, resulting in a short-term boost to the economy during the construction phase. Since the operational increase is annual and the construction increase is short-term, the following analysis separates these two components.

Alomere Health Operational Effects Prior to Expansion: In 2017, Alomere Health spent \$144.1 million to operate in Douglas County. The hospital employed 720 full-time equivalent workers and paid \$58.7 million in labor income.

The operations of Alomere Health supported an estimated total of \$204.4 million in economic activity in the county in 2017. This included \$78.9 million in labor income. The hospital also supported 1,250 jobs. The largest impacts were in the professional and technical services, wholesale trade, and real estate industries.

Alomere Health Operational Effects After Expansion: In 2018, Alomere Health budgeted \$147.0 million in spending for operations, including labor income payments of \$57.9 million. The hospital employed 740 full-time equivalent workers, an increase of 20 employees.



Operations of Alomere Health will support an estimated \$207.7 million in economic activity in 2018, an increase of \$3.3 million from 2017. This amount includes \$78.3 million in labor income and 1,270 jobs. The impact of the expansion is expected to increase with time as the hospital continues to expand services in the new space.

Expansion of Alomere Health, Construction Effects: To complete its expansion, Alomere Health spent \$13.7 million. This created an estimated \$19.1 million of economic activity in Douglas County, including \$6.4 million in labor income. The construction supported 125 jobs.

Impact on Minnesota's Economy: In 2018, Alomere Health created an estimated \$296.6 million in economic activity in Minnesota. The hospital supported 1,835 jobs and \$122.6 million in labor income.

Demographics

Douglas County is a populous county in west central Minnesota. Located in lakes country, it is home to many vacation homes and a large percentage of retirees. As a result, the population is older and whiter than Minnesota as a whole. The county also has a slightly lower percentage of people earning income from working (as retirees' income comes from savings).

Population: After growing steadily during the 2000s, the 2017 population of Douglas County was 37,660. The town of Alexandria, in which Alomere Health is located, has a population of 13,600. Douglas County's population trends older compared to Minnesota. This has important implications for the region, indicating a need for health care services for an aging population.

Diversity: Douglas County's population is primarily white, non-Hispanic (96.2 percent). The white, non-Hispanic population grew by 11 percent between 2001 and 2017. Although lower in total numbers, higher growth rates occurred in non-white and Hispanic populations.

Income and Poverty: Douglas County's median household income and per capita income are above those of the United States but slightly below the state as a whole. Seventy-three percent of Douglas County households receive earnings from income. This compares to 80 percent in Minnesota and 78 percent in the United States.

Labor Force Participation: In Douglas County, 66 percent of the population over the age of 16 is in the labor force. Participation rates for families, however, are higher. In the county, 80 percent of families with children under six have all parents in the labor force and 84 percent of families with children ages six to 12 have all parents in the labor force.

Access to Vehicles: Douglas County residents have access to a vehicle, with only 1 percent of residents having no vehicle available. This is important to the provision of medical services, since it indicates most residents can provide their own transportation to and from a medical facility.

Economy

Douglas County has a manufacturing-based economy. Manufacturing is the largest private-sector industry employer. It has also posted remarkable growth in the county, given the troubles the industry faced nationally during the Great Recession. Alexandria is a regional hub, drawing retail shoppers from across the area and strengthening Douglas County in the retail industry.

Job Change: Douglas County has been steadily adding jobs. Overall, the number of jobs increased to 18,600 in 2017. This is a 19 percent increase from 2001. Job growth has varied by industry. The top three job adding industries in Douglas County included health care and social assistance, government, and manufacturing.

The highest concentration of jobs (as compared to the nation) are in manufacturing, retail trade, and wholesale trade. Given industry and national trends, manufacturing added more jobs than expected, which made it a strength for the county.

Earnings: The average earnings (across all industries) per job in Douglas County was \$47,100. In comparison, Minnesota's average earnings per job was \$63,240. For the United States, it was \$49,600. The average for the health care industry in the county was \$48,241. Earnings include benefits if provided.

Health Care: Between 2001 and 2017, the number of health care jobs in Douglas County grew by 55 percent. This made it the fastest growing industry. Hospitals and nursing care facilities currently have the highest share of health care jobs in Douglas County. Ambulatory health care services (offices of physicians and dentists, outpatient care, and medical labs) has the second highest share of jobs followed by social assistance.

Staffing: Nursing assistants comprise nearly 18 percent of the health care workforce, followed by 11 percent as licensed practical and licensed vocational nurses and 10 percent as personal care aides. The unemployment rate in Minnesota as of September 2018 was 2.2 percent (not seasonally adjusted). The rate for Douglas County was 2.1 percent. This means competition for employees is strong, particularly for those requiring minimal additional education or training.

Hospitals in the United States

National industry trends will affect the profitability of Alomere Health.

Industry Trends: Hospital revenues increased nationally at a rate of around 3 percent between 2012 and 2017. This growth is expected to continue through 2022 at a rate of 3.3 percent. Factors driving growth include the number of people with private insurance, federal funding for Medicare and Medicaid, the number of adults aged 65 and older, and per capita disposable incomes.

Alomere Health appears to be well positioned in three of the four drivers of growth. First, major employers in the region, including government and manufacturing, likely provide private health care insurance to their employees. Second, Douglas County has a higher percentage of its population in the 65 and older age category, making them eligible for Medicare. Finally, Douglas County has a relatively higher per capita income.

Although industry revenues are expected to continue to rise, industry profit is expected to remain steady. This is due to increasing cost pressures and tightening reimbursement reforms on the industry.

Nationally, there is a shortage of health care professionals, especially nurses. As mentioned, Douglas County already has an extremely tight labor market. To attract and retain skilled employees, Alomere Health may need to follow the national trend and increase wages and benefits.

Notes on the Analysis: The data, analysis, and findings described in this report are specific to the geography, period, and project requirements of Alomere Health. Findings are not transferable. University of Minnesota Extension neither approves nor endorses the use or application of findings and other content in this report by other jurisdictions or businesses.

INTRODUCTION

“Our passion and purpose is to strengthen and nurture the health and well-being of our family, friends, neighbors, and communities, through every season of life.” ~ Alomere Health Mission

Located in Alexandria, Minnesota, Alomere Health is a general medical and surgical hospital with two clinics.¹ The hospital provides full medical services, which include a birthing center, a cancer center, a surgery center, rehabilitation, sports medicine, an emergency room, and a sleep center. The hospital has 127 beds and employs 720 full-time equivalent staff, including physicians, advanced practice professionals, and skilled nurses. The hospital is a non-profit with a regional care focus.

Since 2012, Alomere Health has experienced increased demand for its surgery services, with the number of patients increasing by 38 percent. This increased patient demand has spurred expansion at the hospital, including four new operating rooms and eight pre- and post-op rooms. Along with these surgical additions, the hospital also renovated space to add 22 new exam rooms in the specialty clinic. In total, Alomere Health spent \$13.7 million on its expansion.

The hospital funded the expansion project through a variety of sources including a federal New Markets Tax Credit. As part of the New Markets Tax Credit, Equity Plus, LLC hired University of Minnesota to conduct a study measuring the economic contribution of the hospital. Included in the economic contribution study is a comprehensive analysis of the demographics and economics of Douglas County, Minnesota.

ECONOMIC CONTRIBUTION OF ALOMERE HEALTH

Total economic contribution is composed of direct, indirect, and induced effects. Calculating the total economic contribution of a business begins with determining its direct effects. Indirect and induced effects are then calculated using input-output models.

Alomere Health’s expansion contributed to the economy in two ways. First, the hospital expanded its operations. On an annual basis, the hospital will employ more workers and purchase additional supplies. Second, the hospital made investments in equipment and facility space. This caused a short-term boost to the economy during the construction phase. Since the operational increase is annual and the construction increase is short term, this analysis separates the two components.

The direct effects of Alomere Health include increases in annual operations and investments in equipment and space. To measure the increase in annual operations, this report first looks at operations prior to the expansion (2017) and then operations after the expansion (2018). Expansion construction began in fall of 2017 and finished during the first quarter of 2018. Although construction was complete in 2018, the hospital is still expanding its services in the new space. This means impacts will likely increase even more as the hospital moves toward full operational efficiency.

Input-output models trace the flow of dollars throughout a local economy and capture the indirect and induced, or secondary, effects of an economic activity. To quantify the indirect and induced effects of Alomere Health, the direct effects were entered into the input-output model IMPLAN. This analysis uses IMPLAN version 3.0 with SAM multipliers and 2016 data.²

¹ Douglas County Hospital is now doing business as Alomere Health.

² www.implan.com

Indirect effects are those associated with a change in economic activity due to spending for goods and services directly tied to the business. In this case, these are the changes in the local economy occurring because Alomere Health purchases goods (e.g., medical supplies, real estate, and electricity) and related services (e.g., advertising services, accounting, and laundry services). As the hospital makes purchases, this creates an increase in purchases across the supply chain. Indirect effects are the summary of these changes across an economy.

Induced effects are those associated with a change in economic activity due to spending by the employees of businesses (labor) and by households. These are economic changes related to spending by people directly employed by Alomere Health. They create effects as they make purchases for things like health care, housing, and food. It also includes household spending related to indirect effects.

Economic contribution effects can be measured in terms of output (sales), employment, and labor income. Output is typically the most commonly cited result of an economic contribution study. Labor income is recommended as a measure because it indicates the economic benefits that accrue to study area residents.

Douglas County is the primary study area for this analysis. The next sections detail the contribution of Alomere Health in the county. The final section shows the impact on the state of Minnesota. The study area matters, as there are more options to purchase locally when the study area is larger. As a result, the contribution tends to be higher.

Types of Effects

Direct: Spending and employment by Alomere Health

Indirect: Activity generated by Alomere Health’s spending for goods and services (business-to-business spending)

Induced: Activity generated by spending by employees of Alomere Health (consumer-to-business spending)

Alomere Health’s Operational Effects Prior to Expansion, 2017

This section of the report quantifies the economic contribution of Alomere Health’s operations in 2017. This is prior to the expansion’s effect on operations and serves as a baseline.

Direct Effects

In June 2017, Alomere Health employed 720 full-time equivalent (FTE) workers (Table 1). The hospital spent \$144.1 million to operate, including \$58.7 million for wages and benefits.

Table 1: Direct Effect of Alomere Health Operations, 2017

	Direct
Output	\$144.1 million
Employment	720
Labor income	\$58.7 million

Source: Alomere Health

Total Effects

The input-output model estimates total effects based on direct effects. In 2017, Alomere Health generated an estimated total of \$204.4 million of economic activity in Douglas County, including \$78.9 million in labor income (Table 2). The hospital supported 1,250 jobs in the county.

Table 2: Total Annual Economic Contribution of Alomere Health Operations, FY 2017, Douglas County, Minnesota

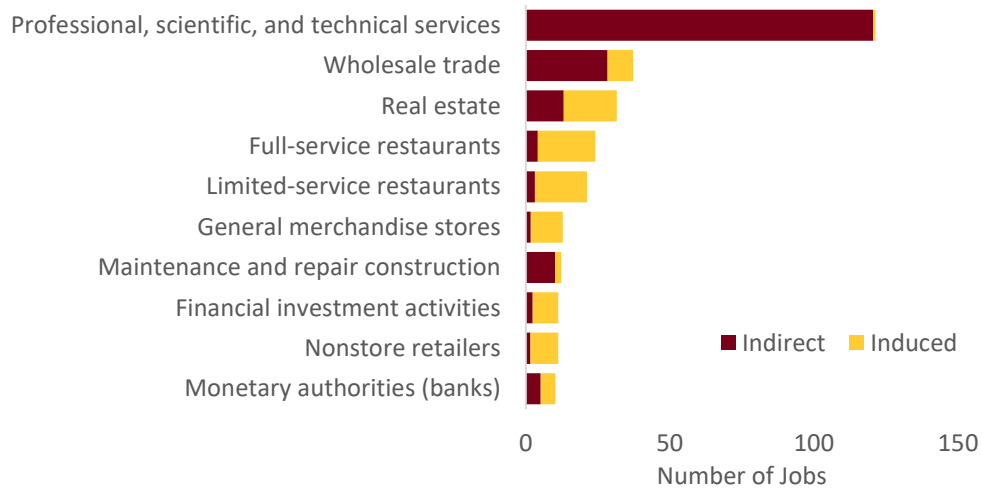
	Direct	Indirect	Induced	Total
Output (millions)	\$144.1	\$26.5	\$33.8	\$204.4
Employment	720	250	280	1,250
Labor Income (millions)	\$58.7	\$10.1	\$10.1	\$78.9

Estimates by University of Minnesota Extension

Top Industries Affected

Alomere Health supported 1,250 jobs in Douglas County. Of those jobs, 720 were at the hospital. The additional 530 jobs were in industries across the economy. The industries experiencing the largest impacts from the hospital's operations were professional, scientific, and technical services, wholesale trade, and real estate (Chart 1).

Chart 1: Top Industries Affected by Alomere Health Operations, Indirect and Induced Effects, 2017



Alomere Health's Operational Effects After Expansion, 2018

This section of the report quantifies the projected economic contribution of Alomere Health's operations in 2018. This is after the expansion's effect on operations and includes expected future contributions. While results do indicate future contributions, many of the new services resulting from the expansion are slowly being added. Therefore, the hospital's contribution is likely to grow as changes are fully implemented over time.

Direct Effects

Alomere Health's expansion will increase operational capacity. As mentioned, capacity is increasing over time. As of June 2018, employment at Alomere Health had increased to 740 full-time equivalent

jobs (Table 3). The hospital had budgeted \$147.0 million for operations, including \$57.9 million for labor. Overall, planned employment increased, but budgeted expenditures for labor slightly decreased. This was due to a decrease in anticipated spending in the payroll benefits and taxes category.

Table 3: Direct Effect of Planned Alomere Health Operations, 2018

	Direct
Output (sales)	\$147.0
Employment	740
Labor income	\$57.9

Source: Alomere Health

Total Effects

In 2018, Alomere Health generated an estimated total of \$207.7 million of economic activity in Douglas County, including \$78.3 million in labor income (Table 4). The hospital supported 1,270 jobs in the county. These effects will be annual and continue as long as the hospital operates at projected levels. As mentioned, impact will likely increase as operations continue to expand in the new space.

Table 4: Projected Total Annual Economic Contribution of Alomere Health Operations, FY 2018, Douglas County, Minnesota

	Direct	Indirect	Induced	Total
Output (millions)	\$147.0	\$27.3	\$33.4	\$207.7
Employment	740	250	280	1,270
Labor Income (millions)	\$57.9	\$10.5	\$9.9	\$78.3

Estimates by University of Minnesota Extension

The top industries impacted by Alomere Health will remain largely the same after expansion. While the scale will increase, the relative order will not. This assumes the purchasing patterns of the hospital remain the same (which is anticipated).

Expansion of Alomere Health, Construction Effects, 2017-2018

In addition to the operational increases of the expansion, Alomere Health also added to the economy during the construction phase. Construction started in fall of 2017 and finished in early 2018.

Direct Effects

Alomere Health spent \$13.7 million in construction costs to expand its facility (Table 5). The major cost (\$10.4 million) was site development, including items such as concrete, electrical work, carpentry, drywall, and plumbing. Other costs included equipment and furnishings, as well as architectural, engineering, and other services.

Table 5: Alomere Health Expansion, Construction Costs

	Direct
Site development	\$10.4
Equipment and furnishings	\$2.2
Architectural, engineering, and other services	\$1.1
Total	\$13.7

Source: Alomere Health

In Douglas County, the total direct effect of Alomere Health’s expansion construction was \$13.7 million (Table 6). Based on construction costs, the input-output model estimates 80 (full-time, part-time, or seasonal) workers were hired to complete the work and paid \$4.7 million in labor income.

Table 6: Direct Effect of Alomere Health Expansion in Douglas County, Construction

	Direct
Output (sales)	\$13.7
Employment	80
Labor income	\$4.7

Source: Alomere Health & IMPLAN model

Total Effects

In total, construction for the expansion of Alomere Health generated \$19.1 million in economic activity. This included \$6.4 million of labor income in the county. The project supported 125 (full-time, part-time, or seasonal) jobs during construction. These effects are short-term and will dissipate once the project is completed.

Table 7: Total Short-Term Economic Contribution of Alomere Health Expansion, Douglas County, Minnesota

	Direct	Indirect	Induced	Total
Output (millions)	\$13.7	\$2.2	\$3.2	\$19.1
Employment	80	15	30	125
Labor Income (millions)	\$4.7	\$0.8	\$0.9	\$6.4

Estimates by University of Minnesota Extension

Top Industries Affected

Alomere Health’s expansion construction supported 125 jobs in the county. Of those, 80 were at the construction site. The remaining 45 were at industries across the county. The industries experiencing the most impact from the expansion include wholesale trade, real estate, and dining establishments (Chart 2).

Chart 2: Top Industries Affected by Alomere Health Expansion, Indirect and Induced Effects, 2017-2018



Impact on Minnesota’s Economy

Alomere Health also had an impact on Minnesota’s economy. In 2017, it contributed an estimated \$291.4 million in economic activity to the state. This includes \$122.3 million in labor income and 1,810 jobs (Table 8).³

Table 8: Total Annual Economic Contribution of Alomere Health Operations, 2017, Minnesota

	Direct	Indirect	Induced	Total
Output (millions)	\$144.1	\$92.8	\$54.5	\$291.4
Employment	720	700	390	1,810
Labor Income (millions)	\$58.7	\$45.0	\$18.6	\$122.3

Estimates by University of Minnesota Extension

In 2018, upon completion of the expansion, Alomere Health contributed an estimated \$296.6 million in economic activity to the state. This included \$122.6 million in labor income and 1,835 jobs (Table 9). These effects will be annual, continuing as long as the hospital operates at projected levels. Impacts are likely to increase as the hospital continues to expand operations in the new space.⁴

Table 9: Projected Total Annual Economic Contribution of Alomere Health’s Operations, 2018, Minnesota

	Direct	Indirect	Induced	Total
Output (millions)	\$147.0	\$95.8	\$53.8	\$296.6
Employment	740	715	380	1,835
Labor Income (millions)	\$57.9	\$46.3	\$18.4	\$122.6

Estimates by University of Minnesota Extension

³ Minnesota is a separate study area from Douglas County. The Minnesota numbers include the impact on Douglas County. The two should not be added.

⁴ As with the study area of Douglas County, overall, Alomere Health expects to have lower expenditures in the payroll benefits and taxes category. Thus, labor income and the related induced effects are lower in 2018 compared to 2017.

Finally, Alomere Health’s expansion construction also added to Minnesota’s economy. In total, the expansion construction contributed an estimated \$23.8 million in economic activity, including \$8.2 million in labor income and 140 jobs. These effects will be short-term, ending once construction is finished.

Table 10: Total Short-Term Economic Contribution of Alomere Health’s Expansion, Minnesota

	Direct	Indirect	Induced	Total
Output (millions)	\$13.7	\$4.2	\$5.9	\$23.8
Employment	80	20	40	140
Labor Income (millions)	\$4.7	\$1.5	\$2.0	\$8.2

Estimates by University of Minnesota Extension

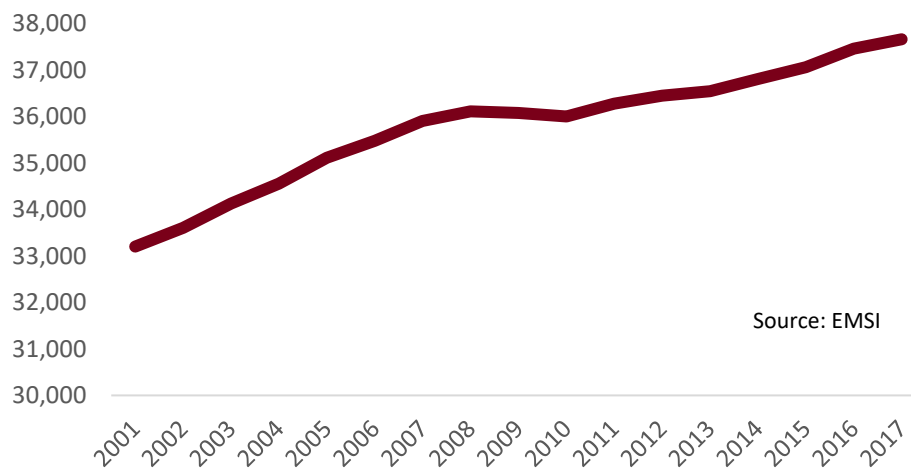
THE DEMOGRAPHICS OF DOUGLAS COUNTY, MINNESOTA

To understand the role of Alomere Health in Douglas County, one must understand the demographic and economic profile of the county. This section explores the demographics of Douglas County, Minnesota.

Population Change, Age, and Sex

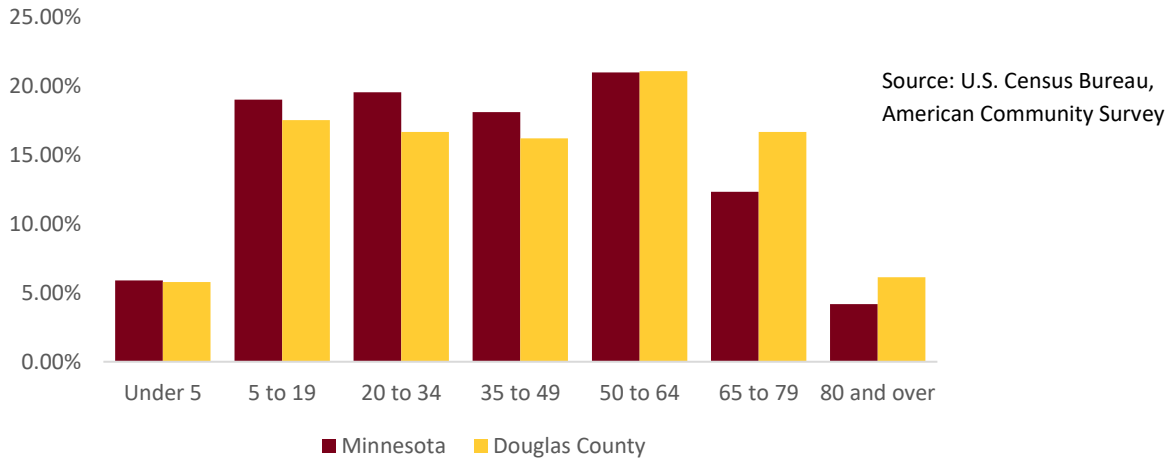
Alomere Health is located in Alexandria, Minnesota. After growing steadily during the 2000s, the 2017 population of Douglas County was 37,660 (Chart 3). Alexandria itself has a population of 13,600 (36 percent of county). It is the largest community in Douglas County.

Chart 3: Population, Douglas County, 2001-2017



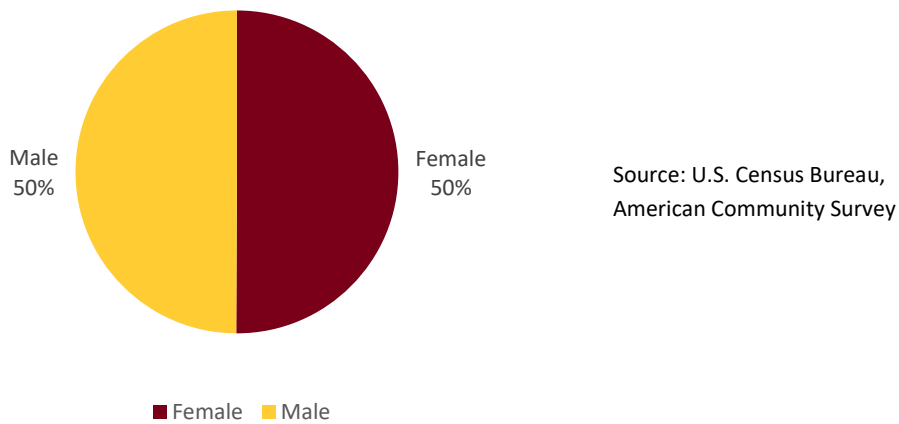
Douglas County’s population trends older compared to Minnesota as a whole (Chart 4). While 16.5 percent of Minnesotans are 65 and older, 22.8 percent of Douglas County’s population is in the same age category. This may be a result of Douglas County being in Minnesota’s lakes country, with many people retiring to lake homes in the area. This trend has important implications for the region, indicating a need for health care services for an aging population.

Chart 4: Population by Age, Douglas County and Minnesota, 2017



Douglas County’s population is equally divided between males and females (Chart 5).

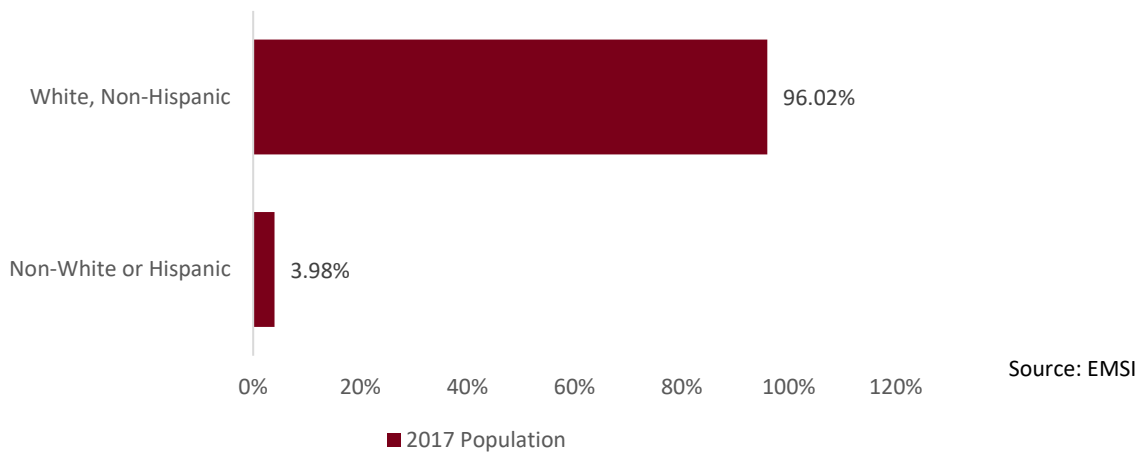
Chart 5: Population by Sex, Douglas County, 2017



Population Diversity

Douglas County’s population is primarily white, non-Hispanic (96.2 percent). About 1 percent of the population is white, Hispanic and 1 percent is two or more races, non-Hispanic (Chart 6).

Chart 6: Population by Race/Ethnicity, Douglas County, 2017



While current racial diversity is low, the fastest rates of population growth are in the non-white population (Table 11). The number of American Indian or Alaska Native, Hispanic residents increased by 1167 percent between 2001 and 2017—the fastest growing racial demographic. Meanwhile, the white, non-Hispanic population grew at a modest 11 percent.

Table 11: Percent Change in Population by Race/Ethnicity, 2001-2017, Douglas County, Minnesota

Race/Ethnicity	Percent Change
White, Non-Hispanic	11%
White, Hispanic	140%
Asian, Non-Hispanic	22%
Two or More Races, Non-Hispanic	174%
American Indian or Alaskan Native, Non-Hispanic	62%
Black, Non-Hispanic	189%
Native Hawaiian or Pacific Islander, Non-Hispanic	-40%
Two or More Races, Hispanic	600%
American Indian or Alaskan Native, Hispanic	1167%
Asian, Hispanic	200%
Black, Hispanic	450%
Native Hawaiian or Pacific Islander, Hispanic	0%

Source: EMSI

Income and Poverty

Douglas County’s median household income (\$56,347) and per capita income (\$31,640) are above those of the United States but slightly below those of Minnesota. (Table 12). Seventy-three percent of Douglas County households receive earnings from income. This compares to 80 percent in Minnesota and 78 percent in the United States. The lower level may reflect a higher percent of retirees in the county who do not currently receive income from earnings.

Table 12: Income and Poverty, 2012-2016 American Community Survey Estimates, in 2016 dollars

	Douglas County	Minnesota	United States
Median Household Income (2012-2016)	\$56,347	\$63,217	\$55,322
Percent of Households with Earnings from Employment	73%	80%	78%
Per Capita Income in the Past 12 Months (2012-2016)	\$31,640	\$33,225	\$29,829
Persons in Poverty, Percent	8.7%	10.8%	12.7%

Source: United State Census

Labor Force Participation

In Douglas County, 66 percent of the population over the age of 16 is in the labor force. This is lower than the state average but higher than the national average (Table 13). Participation rates for families, however, are higher. In the county, 80 percent of families with children under six have all parents in the labor force and 84 percent of families with children ages six to 12 have all parents in the labor force.

Table 13: Labor Force Participation, 2012-2016 American Community Survey Estimates

	Douglas County	Minnesota	United States
Percent of Population over 16 in Labor Force	66%	70%	64%
Percent of Families with All Parents in Family in Labor Force (Children are under 6)	80%	75%	65%
Percent of Families with All Parents in Family in Labor Force (Children are 6 to 17)	84%	79%	71%

Source: United State Census

Access to Vehicles

Overall, Douglas County residents have access to a vehicle, with only 1 percent having no vehicle available (Table 14). Having access to a vehicle is important since 90 percent of Douglas County's labor force commutes via car, truck, or van. It is also important to the provision of medical services, since this indicates most residents can provide their own transportation to and from a medical facility.

Table 14: Access to Vehicles, 2012-2016 American Community Survey Estimates

	Douglas County	Minnesota	United States
Households with No Vehicle Available	1.0%	2.6%	4.4%
Percent commuting to Work via Car, Truck, or Van (either alone or in carpool)	90%	87%	86%

Source: United State Census

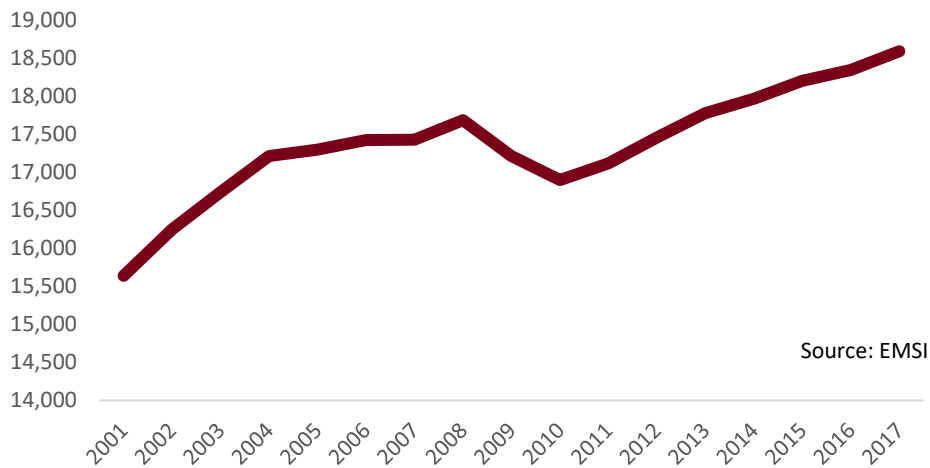
THE ECONOMY OF DOUGLAS COUNTY, MINNESOTA

This section explores the economy of Douglas County, Minnesota.

Employment Trends

With the exception of the Great Recession, the number of jobs in Douglas County has grown steadily since 2001 (Chart 7). Overall, the number of jobs increased from 15,640 in 2001 to 18,600 in 2017. This is a 19 percent increase. Like most counties in the United States, the number of jobs in Douglas County fell during the Great Recession (2008-2009); however, Douglas County has recovered. The number of jobs in 2017 was above its peak in 2008.

Chart 7: Number of Jobs, Douglas County, Minnesota, 2001-2017



Job growth has varied by industry. The top three job adding industries in Douglas County include health care and social assistance, government, and manufacturing (Table 15). The top three job loss industries included information, transportation and warehousing, and professional, scientific, and technical services.

Shift share analysis helps parse out the sources of growth. The national growth rate indicates how the national economy grew during a particular period. A positive national growth component reflects growth in the national economy. Industry mix indicates how the industry changed at the national level. A positive industry mix number shows growth in the industry. The competitive effect shows how the industry did at the regional level. A positive competitive effect indicates that, regionally, the industry outperformed national and industry trends. A negative competitive effect means that, regionally, the industry should have grown faster, given industry and national trends.

Shift Share Terms

National growth: Change attributable to changes in overall national economy

Industry mix: Change attributable to industry trends

Competitive effect: Change remaining after accounting for industry and national trends; reflects local conditions

Location quotients illustrate the concentration of jobs in an industry. A location quotient of one indicates the percent of jobs in an industry is equal to the percent of jobs in the industry nationally. A location quotient of greater than one indicates a higher concentration of jobs in a particular industry. Conversely, a location quotient less than one indicates fewer jobs in an industry relative to the nation.

Table 15: Shift Share Analysis, Douglas County, Minnesota, 2017

	2001 Jobs	2017 Jobs	Change 01-07	National Growth	Industry Mix	Competitive Effect	Location Quotient
Top Job Adding Industries							
Health care and social assistance	1,377	2,133	756	141	512	102	0.86
Government	2,697	3,406	709	276	-129	562	1.22
Manufacturing	2,627	3,307	680	269	-920	1,330	2.06
Top Job Loss Industries							
Information	518	222	-296	53	-167	-182	0.61
Transportation and warehousing	281	221	-60	29	19	-108	0.35
Professional, scientific, and technical services	416	368	-48	43	83	-173	0.32

Source: EMSI

Health care and social assistance was the fastest growing industry in the region and at the national level. In addition, since Douglas County added more jobs than anticipated, it recorded a positive competitive effect. Given industry and national trends, the county added 102 more jobs than expected, showing this industry has strength in the county. The location quotient remains below one, so some of Douglas County’s growth may be a result of catching up with national levels. If the industry continues to outpace national trends, the location quotient should rise.

Manufacturing was also a clear strength in the county. While manufacturing declined nationally between 2001 and 2017, Douglas County added 680 industry jobs. Since trends would have indicated a loss of 920 jobs, the county outperformed national and industry trends in manufacturing. The location quotient for manufacturing is 2.06. This means Douglas County has twice as many jobs in manufacturing compared to the national average, further showing this industry as a strength.

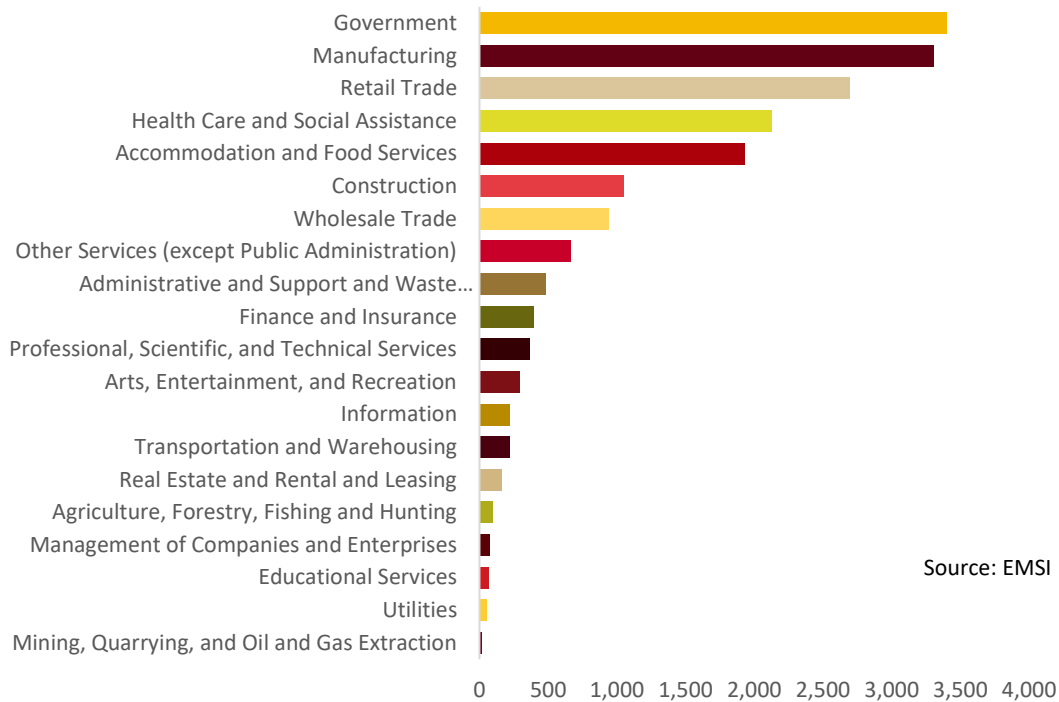
In all three job loss industries, Douglas County had a negative competitive effect. This indicates the three industries performed below national and industry trends. However, they all have location quotients well below one, indicating these are not major industries in the county.

Composition of the Economy

In terms of number of jobs, government is the largest employer (3,400 jobs) in Douglas County (Chart 8). The government includes federal, state, and local employment. It also includes K-12 education, which is often a major employer in rural communities.

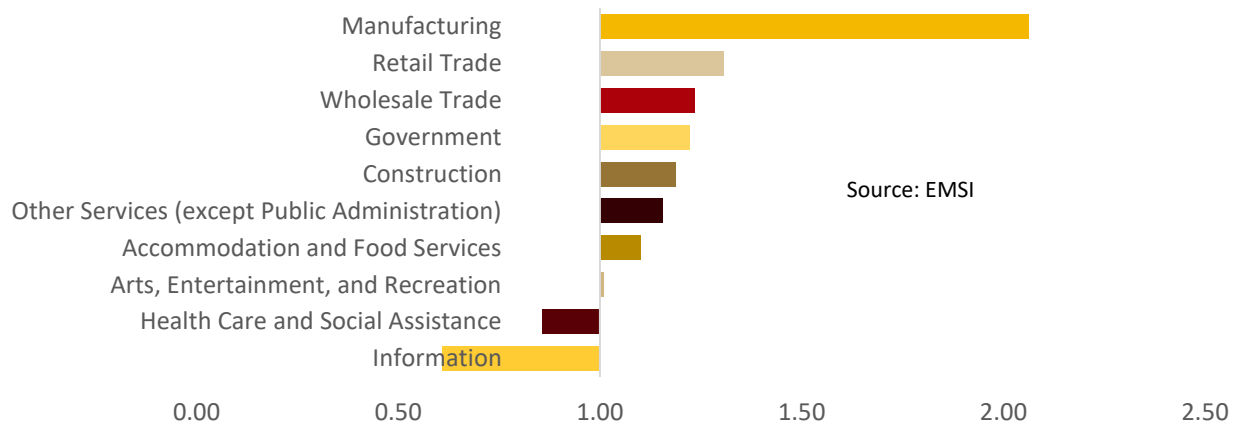
Manufacturing is the second largest employer with 3,300 jobs. As mentioned, this industry has been growing in Douglas County. Retail trade is the third largest source of employment in the county. In the data set, one job is one job regardless if it is full-time, part-time, or seasonal. Therefore, it is not unusual to see a high number of jobs in retail and service industries.

Chart 8: Employment by Industry, Douglas County, 2017



The highest location quotients in Douglas County are in manufacturing (2.0), retail trade (1.3), and wholesale trade (1.2). These are the relative strengths of Douglas County (Chart 9). Douglas County is home to Alexandria, one of the largest cities in the region. The town is a regional hub, drawing retail customers from the area.

Chart 9: Location Quotient by Industry, Douglas County, 2017



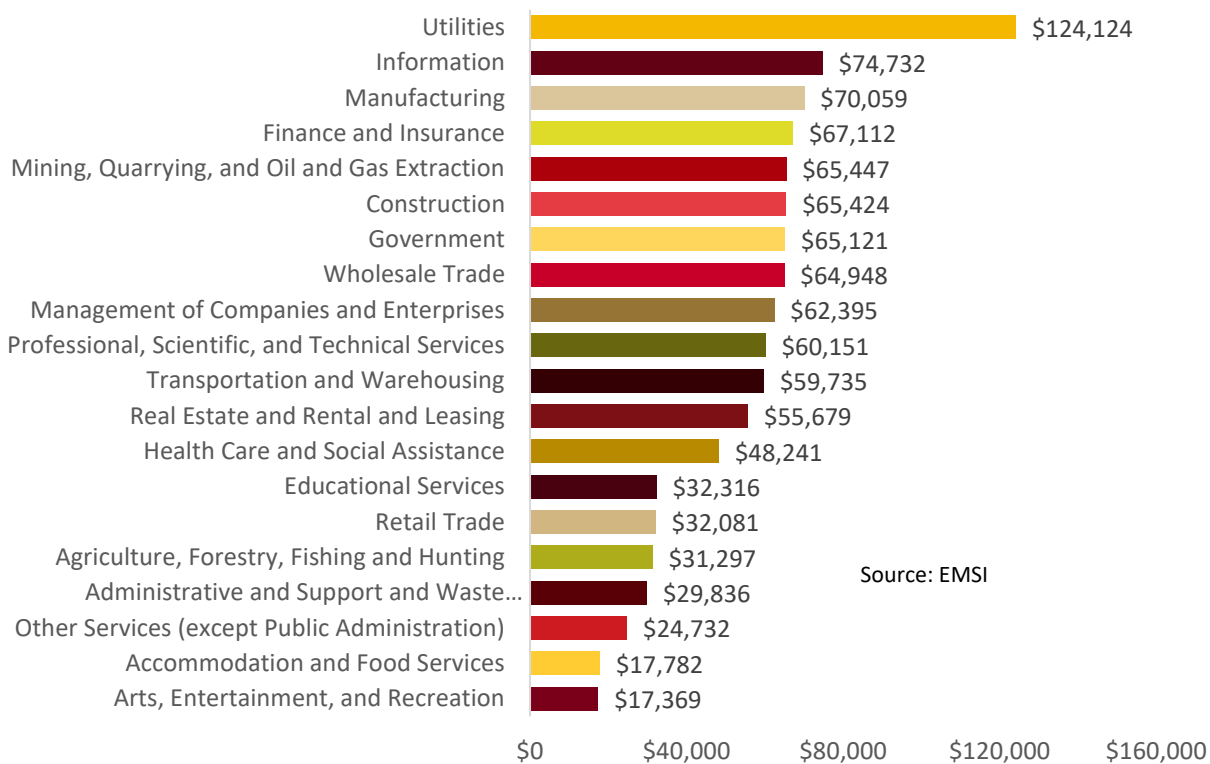
Average earnings (across all industries) per job in Douglas County was \$47,100 (Chart 10). In comparison, Minnesota's average earnings per job was \$63,240. For the United States, it was \$49,600. Average earnings are calculated by dividing total industry earnings by the number of jobs.

Total earnings include wages, salaries, supplements (employee benefits when provided), and proprietor income.

The highest average earnings were in utilities (\$124,124) and information (\$74,732). Neither of these jobs, however, were areas of concentration for Douglas County. Average earnings in the highest employment industries were \$70,059 for manufacturing and \$32,081 for retail trade. Average earnings for the health care sector was \$48,241.

The lowest average earnings per job were in arts, entertainment, and recreation (\$17,369) and accommodations and food service (\$17,782). Since average earnings are total earnings divided by the number of workers, it is not unusual to observe lower averages per job in sectors with higher levels of part-time workers (such as the service sector).

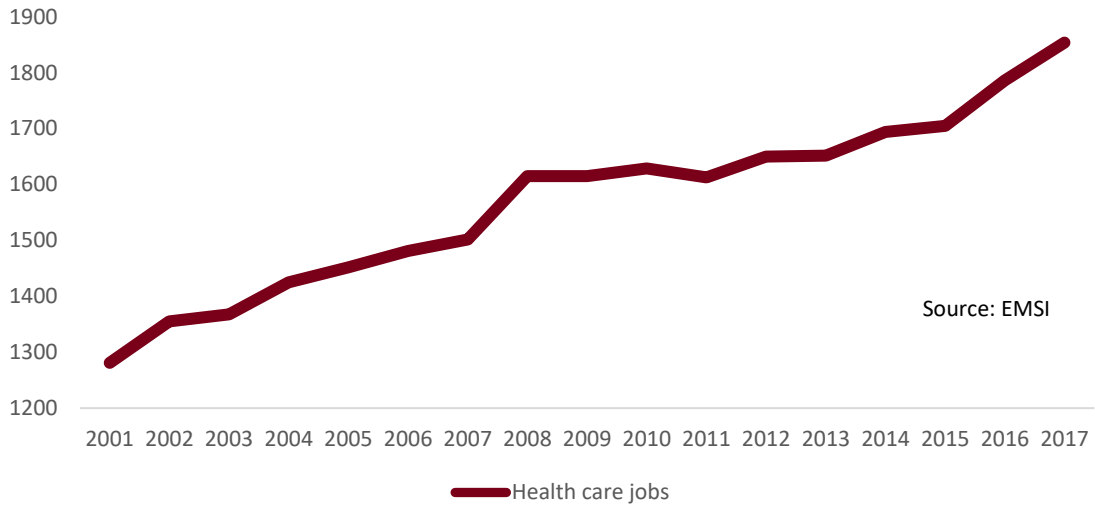
Chart 10: Average Earnings Per Job, Douglas County, Minnesota, 2017



The Health Care Sector

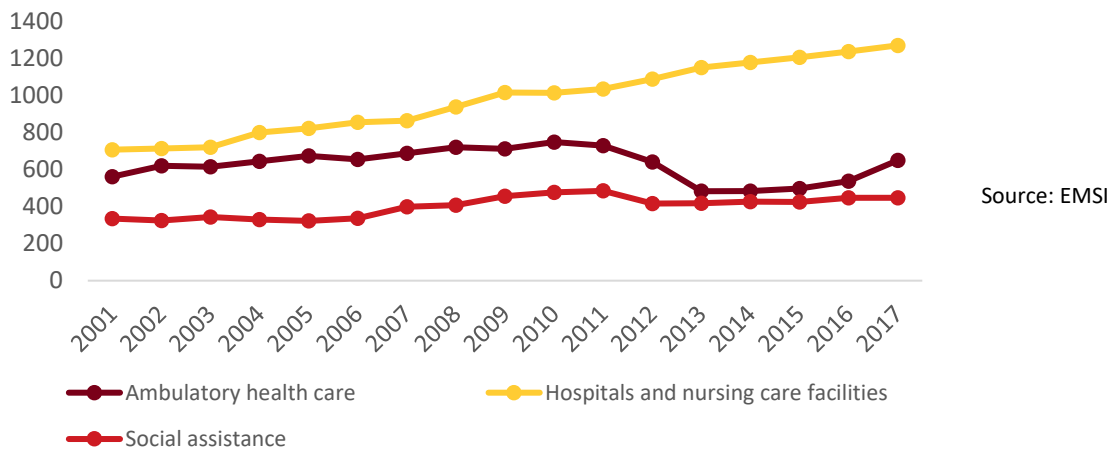
As mentioned, Alomere Health is part of Douglas County’s health care sector. Between 2001 and 2017, the number of health care jobs grew by 55 percent. Growth was consistent between 2001 and 2017 (Chart 11) but plateaued during the Great Recession (2008-2009). Since then, however, health care jobs have resumed relatively rapid growth.

Chart 11: Health Care Employment, Douglas County, MN, 2001-2017



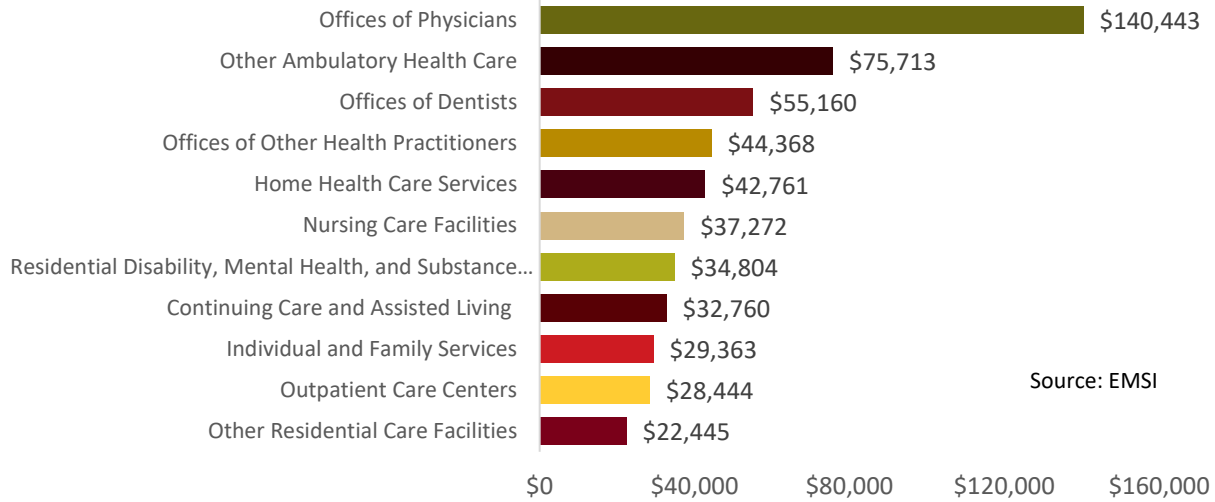
Currently, hospitals and nursing care facilities have the highest share of health care jobs in Douglas County (Chart 12). Ambulatory health care services (including offices of physicians and dentists, outpatient care, medical labs, and ambulance services) has the second highest share of jobs, followed by social assistance.

Chart 12: Employment by Health Care Sector, Douglas County, Minnesota, 2001-2017



The Douglas County average earnings per job in the health care industry is \$48,241. This compares to the county's overall average earnings of \$47,100. The highest average earnings are in the offices of physicians and dentists, and other ambulatory health care (Chart 13).

Chart 13: Average Annual Earnings per Job by Health care Sector, Douglas County, Minnesota, 2017



As for staffing, nursing assistants comprise nearly 18 percent of the health care workforce, followed by 11 percent as licensed practical and licensed vocational nurses, and 10 percent as personal care aides (Table 16).

Table 16: Staffing Patterns, Health Care Industry, 2017

Occupation	Percent of U.S. Health Care Workforce	2017 Median Hourly Earnings Minnesota	2017 Median Hourly Earnings Douglas County	Typical Entry Level Education	Work Experience Required	Typical On-the-Job Training
Nursing Assistants	17.6%	\$15.34	\$12.71	Postsecondary non-degree award	None	None
Licensed Practical and Licensed Vocational Nurses	10.6%	\$21.85	\$21.20	Postsecondary non-degree award	None	None
Personal Care Aides	10.4%	\$11.71	\$10.54	High school diploma or equivalent	None	Short-term on-the-job training
Home Health Aides	5.7%	\$13.28	\$10.87	High school diploma or equivalent	None	Short-term on-the-job training
Registered Nurses	4.1%	\$37.34	\$32.91	Bachelor's degree	None	None
Dental Assistants	2.5%	\$23.08	\$17.76	Postsecondary non-degree award	None	None

Source: EMSI

Both nursing assistants and licensed practical and licensed vocational nurses require some post-secondary education (though not necessarily a degree). Personal care aides do not require any post-secondary education.

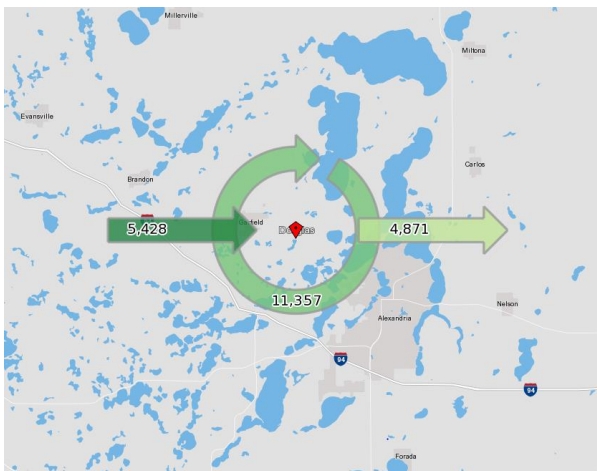
The unemployment rate in Minnesota as of September 2018 was 2.2 percent (not seasonally adjusted). The rate for Douglas County was 1.9 percent. Thus, competition for employees is strong, particularly for those requiring no additional education or training. If looking to expand positions in these health care professions, Alomere Health may have difficulty recruiting and hiring.

The low unemployment rate may also put pressure on wages. Hourly earnings in Table 16 do not include benefits, but they do include base rate, guarantee pay, hazard pay, and tips. Currently, wages in many of the health care occupations are lower in Douglas County compared to the state.

Commuting Patterns

Douglas County is not a significant commuting county. In 2015, the majority of people (11,357) both lived and worked within the county (Map 1). Meanwhile, 5,426 people commuted in to work and 4,871 commuted out. This is significant, as people who both live and work in a place are more likely to also shop and consume health care within the area.

Map 1: Douglas County Minnesota, Commuting Patterns, 2015



Source: On the Map, United States Census Bureau

THE HOSPITAL INDUSTRY IN THE UNITED STATES

According to IBISWorld⁵, the hospital industry “includes operators licensed as general medical and surgical hospitals that provide surgical and nonsurgical diagnostic and medical treatment to inpatients. Hospitals maintain inpatient beds and usually provide other services, including outpatient, operating room, and pharmacy services. The industry excludes psychiatric and other specialty hospitals.” The following summary of the industry is based on IBISWorld’s industry report.

Industry Outlook

Nationally, hospital revenues increased between 2012 and 2017 at a rate of around 3 percent. IBISWorld anticipates this growth to continue through 2022 at a rate of 3.3 percent. Factors driving

⁵ IBISWorld. (2017). *IBISWorld industry report 62211, hospitals in the US*. Retrieved from www.ibisworld.com

growth include the number of people with private insurance, federal funding for Medicare and Medicaid, the number of adults aged 65 and older, and per capita disposable incomes.

Alomere Health appears to be well positioned in three of the four drivers of growth. First, major employers in the region, including government and manufacturing, likely provide private health care insurance to their employees. The privately insured tend to use health care more frequently, and their insurers often pay more for services. Second, Douglas County has a higher percentage of its population in the 65 and older age category. People over the age of 65 generally require more health care services. Finally, Douglas County has a relatively higher per capita income. Those with higher incomes also tend to use health care more frequently and pay more for their services.

Although industry revenues are expected to continue to rise, industry profit is expected to remain steady. This is due to increasing cost pressures and tightening reimbursement reforms on the industry. In addition to the rising cost of pharmaceuticals, hospitals are also facing increasing staffing costs. Nationally, there is a shortage of health care professionals, especially nurses. As mentioned, Douglas County already has an extremely tight labor market. To attract and retain skilled employees, Alomere Health may need to follow the national trend and increase wages and benefits.

Competition and consolidation are also important trends in the hospital industry. With tightening reimbursement reforms, hospitals are consolidating to increase their purchasing power and decrease costs. Hospitals are also consolidating to compete with other providers. Historically, competition has been low in the industry. However, in recent years, there has been a rise in the number of new facilities, such as outpatient surgery centers, to compete with hospitals.

NOTES ON THE ANALYSIS

The data, analysis, and findings described in this report are specific to the geography, period, and project requirements of Alomere Health. Findings are not transferable to other jurisdictions. University of Minnesota Extension neither approves nor endorses the use or application of findings and other content in this report by other jurisdictions.

APPENDIX: DEFINITIONS AND TERMS

Special models, called input-output models, exist to conduct economic impact analysis. There are several input-output models available. IMPLAN (Impact Analysis for PLANning, Minnesota IMPLAN Group) is one such model. Many economists use IMPLAN for economic impact analysis because it can measure output and employment impacts, is available on a county-by-county basis, and is flexible for the user. IMPLAN has some limitations and qualifications, but it is one of the best tools available to economists for input-output modeling. Understanding the IMPLAN tool, its capabilities, and its limitations will help ensure the best results from the model.

One of the most critical aspects of understanding economic impact analysis is the distinction between the local and non-local economy. The local economy is identified as part of the model-building process. Either the group requesting the study or the analyst defines the local area. Typically, the study area (the local economy) is a county or a group of counties that share economic linkages. In this analysis, there are two study areas. The first is Douglas County and the second is the state of Minnesota.

A few definitions are essential to properly read the results of an IMPLAN analysis. These terms and their definitions are provided below.

Output

Output is measured in dollars and is equivalent to total sales. The output measure includes significant double counting. Think of corn, for example. The value of the corn is counted when it is sold to the mill and then again when it is sold to the dairy producers as a feed supplement. It is then counted again when the dairy producer sells the milk to the cheese manufacturer. It is counted yet again when the cheese is sold. The value of the corn is built into the price of each of these items and then the sale of each of these items are added up to get total sales (or output).

Employment

Employment includes full- and part-time workers and is measured in annual average jobs, not full-time equivalents (FTEs). IMPLAN includes total wage and salaried employees, as well as the self-employed, in employment estimates. Because employment is measured in jobs and not in dollar values, it tends to be a very stable metric.

Labor Income

Labor income measures the value added to the product by the labor component. So, in the corn example, when the corn is sold to the mill, a certain percentage of the sale goes to the farmer for his/her labor. Then when the mill sells the corn as feed to dairy producers, it includes some markup in the price for its labor costs. These individual value increments for labor can be measured, which amounts to labor income. Labor income does *not* include double counting.

Direct Impact

Direct impact is equivalent to the initial activity in the economy. In this study, it is spending by Alomere Health as detailed in this report.

Indirect Impact

The indirect impact is the summation of changes in the local economy that occur due to **spending for inputs** (goods and services) by the business directly impacted. For instance, if employment at a hospital increases by 100 jobs, this implies a corresponding increase in activity at the hospital. As the hospital expands services, it must also purchase more inputs, such as electricity, food, and equipment. As the hospital increases purchases of these items, its suppliers must also increase production, and so forth. As these ripples move through the economy, they can be captured and measured. Ripples related to the purchase of goods and services are indirect impacts. In this study, indirect impacts are those associated with spending by Alomere Health for operating items.

Induced Impact

The induced impact is the summation of changes in the local economy that occur due to **spending by labor**. For instance, if employment at the hospital increases by 100 jobs, the new employees will have more money to spend to purchase housing, buy groceries, and go out to dinner. As they spend their new income, more activity occurs in the local economy. Induced impacts also include spending by labor generated by indirect impacts. So, if a hospital employee purchases services from a local tax preparer, spending of the tax preparer's wages would also create induced impacts. Primarily, in this study, the induced impacts are the economic changes related to spending by Alomere Health's employees.

Total Impact

The total impact is the summation of the direct, indirect, and induced impacts.

Input-Output, Supply and Demand, and Size of Market

Care must be taken when using regional input-output models to ensure they are being used in the appropriate type of analysis. If input-output models are used to examine the impact of an industry so large that its expansion or contraction results in major supply and demand shifts, causing the prices of inputs and labor change, input-output models can overstate the impacts or impacts. It is not likely Alomere Health has an impact on national input prices. Hence, the model should reliably estimate the impacts.